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AN ANALYSIS OF PLANNED VERSUS
ACTUAL ALLOCATION OF AGRICULTURAL
CREDIT IN COLOMBIA

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I. Introduction

Like many developing countries, Colombia has followed a policy of concessionary interest rates for agricultural credit in an attempt to promote agricultural production and to subsidize farmers, especially small farmers. Concessionary interest rates lead to an excess demand for subsidized agricultural credit, which in turn necessitates rationing devices and procedures to allocate this credit. The Colombian government has developed elaborate rationing mechanisms in an attempt to allocate specific amounts of bank credit to various crops and thereby to promote their production. The primary purpose of this paper is to examine these rationing mechanisms and to evaluate their success in achieving the planned allocation of agricultural credit and in promoting the production of designated crops.

In Colombia two government institutions are responsible for almost all institutional credit allocated to the agricultural sector. The first is the Fondo Financiero Agropecuario (FFAP), a department of the Banco de la Republica (Colombia's central bank), which rediscounts bank loans to the agricultural sector. Resources for these rediscounts are obtained primarily from bonds, which Colombian banks are required to hold, from international lending institutions and at times directly from the Banco de la Republica. The government's Junta Monetaria establishes the conditions for these agricultural loans and rediscounts and, in fact, for all formal agricultural credit. The second government institution is the Caja Agraria, founded in the 1930's, which is the largest bank in Colombia. Like other banks in Colombia, the Caja Agraria has access to rediscounts from FFAP, and it makes substantial use of these resources. However, unlike the other banks, the Caja Agraria also makes substantial use of its own resources (obtained primarily from demand deposits and from time and savings deposits) in its agricultural lending. Also, unlike other banks and FFAP, the Caja

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Agraria is oriented toward serving small farmers, and the majority of Caja credit from its own ordinary resources is in fact allocated to small farmers. In the subsequent analysis, Caja loans based on FFAP rediscounts are included in FFAP statistics, while Caja statistics refer only to loans from the Caja's ordinary resources.

The next section of this paper examines agricultural credit policy in Colombia during the 1970's and in particular the rationing mechanisms developed by the Colombian government in its attempt to allocate agricultural credit to different seasonal crops. Although essentially the same mechanisms are used in allocating credit for permanent crops, livestock, infrastructure, agricultural equipment and so forth, the focus here is on the major seasonal crops (which can be planted twice per year in Colombia): beans, corn, cotton, potatoes, rice (both irrigated and dryland), sesame, sorghum, soybeans and wheat. The main reason for this focus is that credit policies can be related more directly to price and output in the case of seasonal crops than for other agricultural activities. The third section of the paper examines the Colombian government's agricultural price policies for seasonal crops, especially as they relate to the allocation of agricultural credit. The final section of the paper compares the planned and actual allocation of agricultural credit and indicates why there is so little relation between the credit program and actual credit use. Some conclusions are also drawn about the relationship between agricultural credit and production and about the success of credit policies in promoting the production of certain crops and in subsidizing farmers.

II. Agricultural Credit Policy

In Colombia during the 1970's real rates of interest on most bank loans to the agricultural sector have been very low or even negative. Since 1972 the rate of inflation, measured by either the wholesale or consumer price index, has averaged more than 20 percent per year, at times reaching 40 percent. On the other hand, nominal interest rates, which are set by the Junta Monetaria, have generally ranged between 10 and 20 percent per year for bank loans to the agricultural sector. More specifically, nominal interest rates on short-term loans for seasonal crops from the Caja's ordinary resources have ranged from 10 to 18 percent, and from 10 to 17 percent on loans rediscounted by FFAP (or the Fondo Financiero Agrario before 1973). The resulting low or negative real rates of interest suggest that there should be substantial excess demand for this agricultural credit, especially since borrowers have at times been able to earn up to 26 percent (nominal) interest on certain classes of time deposits and more than 30 percent on short-term and virtually risk-free securities.

In response to this excess demand for credit, the Colombian government has established rationing mechanisms in an attempt to allocate credit to activities which are considered particularly desirable. The Oficina de Planeacion del Sector Agropecuario (OPSA) of the Ministerio de Agricultura has primary responsibility for planning the amounts to be lent for different agricultural activities, especially under FFAP rediscounts. Twice each year in advance of the planting season, OPSA develops its credit programs for seasonal crops (once each year for permanent crops and other agricultural activities). In developing these credit programs OPSA relies heavily on regional and national committees which are composed of representatives of government institutions concerned with the agricultural sector, financial institutions, producer groups and sometimes user groups or other interested individuals.

Based on perceptions of national requirements and information on crop yields, these committees recommend the areas to be planted to different crops. Then, based on estimates of production costs per hectare for each crop, recommendations are formulated for the amount of credit to be allocated to each crop. However, not all production costs are financed. Land rent and acquisition and some labor costs are ineligible, and not all of the eligible costs are financed. For each production period the percentage of eligible costs to be financed is set, and these percentages vary both over time and among crops, presumably to provide different incentives for the production of different crops. Because of differences among areas and technologies, there can be considerable variation in the estimates of production costs. Just as it is in the interest of producer groups to have high support prices, it is also in their interest to have production costs and percentages to be financed set as high as possible, in order to obtain more credit at concessionary rates of interest.

The recommendations of the regional committees are reviewed by OPSA in conjunction with national committees for each of the major crops and then submitted to the Junta Monetaria for approval. In determining the final version of the agricultural credit program, and in particular the amounts to be lent under FFAP rediscounts, the Junta Monetaria takes into account not only the OPSA recommendations but also overall economic and financial considerations such as the rate of inflation, recent patterns of growth in money and credit and resources available to FFAP from loan repayments and new foreign loans. Although the Junta Monetaria may change the total amount of credit programmed for the agricultural sector based on these considerations, the priorities established by OPSA within the agricultural sector are rarely changed, in part because FFAP officials are in close contact with OPSA and the regional and national committees throughout the planning process.

When using FFAP rediscounts the Caja Agraria is subject to the FFAP credit program, but when lending from its ordinary resources the Caja Agraria follows its own credit program. However, Caja programming closely parallels OPSA programming in two respects: (1) Caja officials participate in most of the regional and national committees, and (2) in its planning the Caja Agraria relies heavily on information provided by its regional offices. Thus, differences between the Caja and FFAP credit programs do not result from differences in approach or information, but rather from Caja's basic objective of serving small farmers. Since small farmers tend to grow traditional crops, the Caja's credit programs emphasize traditional crops such as beans, corn, potatoes, sesame and wheat, while FFAP focuses on commercial crops grown by large farmers such as cotton, rice, sorghum and soybeans. In addition, it is argued that even for the same crop production costs per hectare are lower for small farmers using traditional technologies than for large farmers who rely more heavily on purchased inputs. This is said to explain why the Caja Agraria establishes higher percentages of production costs to be financed but for most crops actually lends less per hectare than is lent under FFAP rediscounts.

III. Agricultural Price Policy

In attempting to influence the level and composition of agricultural output and to subsidize certain producer groups, the Colombian government uses price policies as well as credit policies. The Instituto de Mercadeo Agropecuario (IDEMA) is the main governmental institution responsible for implementing price support and stabilization policies. IDEMA's primary functions are to buy agricultural products at support prices, accumulate buffer stocks, stabilize prices, and import or export products as required. The price supports apply only to some basic products such as rice, corn, beans, sorghum, soybeans, wheat and sesame, but IDEMA also buys a few other agricultural products.

The influence of support prices on farmers' production decisions depends basically on: (1) the level of the support price, (2) the degree of farmer confidence in the declared price, and (3) farmers' ability to sell at the support price. The support price is supposed to cover all production costs plus a reasonable profit margin for the average producer. However, for the reasons previously mentioned, the estimates of production costs which are developed in the credit planning process may be quite subjective and not representative for a significant number of producers. Moreover, except for rice and wheat, support prices during the 1970's have generally been set at levels below the prices actually received by farmers, and these low support prices are reflected in IDEMA purchases averaging less than 5 percent of annual production for products other than rice and wheat. These low percentages purchased by IDEMA have even failed to reduce seasonal price fluctuations. The financial

problems of IDEMA resulting from large operating losses have limited purchases and encouraged low support prices and may also have contributed to a lack of farmer confidence in the price support program.

Farmers are also frequently unable to sell their products at the support price because the small number of purchase points (41 permanent locations plus 50 mobile units) restricts farmer access and because IDEMA's quality specifications often result in substantial discounts for products which do not meet IDEMA's inflexible standards. The delay in IDEMA's payments may present a further difficulty. It has been reported that payments by IDEMA to farmers have sometimes been delayed for several months in contrast to the immediate cash payments offered by private buyers.

Political pressures in urban areas to maintain adequate domestic food supplies at prices favorable to consumers may often result in agricultural policies that depress farm prices. Although not currently used in Colombia on a significant number of agricultural products, controls over retail food prices and marketing margins have been widely applied in the past. Such market intervention policies reduce profits and create incentives for producers to divert resources into nonfood or nonagricultural production where rates of return are higher. Because of the worldwide price increases for many primary commodities that occurred during the early 1970's, real gross income per hectare has tended to increase for most of the products included in this study. Moreover, Colombian producers are receiving prices for these products which appear to be quite close to international F.O.B. prices when the comparison is made at the official exchange rate. However, when the official exchange rate is adjusted for the overvaluation implicit in the structure of protection, Colombian farmers are likely to be receiving prices which are well below the international prices for these products. Studies by Belassa and associates estimate that in Brazil and Chile the overvaluation was 27 percent and 68 percent, respectively, in the mid-1960's, and the structure of protection in these countries is not likely to be appreciably different from that of Colombia.

IV. The Allocation of Agricultural Credit: Results and Conclusions

To evaluate the success of Colombian government rationing mechanisms in determining the allocation of agricultural credit, the amount of credit programmed by FFAP and the Caja Agraria for each of the main seasonal crops has been compared with the amount of loans actually approved during each Colombian agricultural year July 1971--June 1972 through July 1976--June 1977. Table 1 presents the ranges in the ratio

Table 1. Relation of Amount of Loans Approved to Amount of Credit Programmed, 1971-77 a/

	Range in Ratio of Credit Approved to Credit Programmed		Correlation of Credit Approved With Credit Programmed	
	Fondo Financiero Agropecuario	Caja Agraria	Fondo Financiero Agropecuario	Caja Agraria
Cotton	1.29 - 5.15	.82 - 2.34	.56	.01
Rice(Irrigated)	1.04 - 2.38	1.66 - 5.45	.36	.62
Sorghum	.96 - 4.94	.39 - 1.98	-.06	.14
Soybeans	.54 - 2.06	.64 - 2.39	-.07	.04
Beans	.12 - 2.27	.82 - 2.46	-.10	-.57
Corn	.72 - 1.50	.90 - 2.06	.27	-.07
Potatoes	.82 - 1.56	1.15 - 2.43	.82*	.57
Rice(Dryland)	.86 - 2.88	.27 - 1.25	.47	-.05
Sesame	.43 - 4.18	.79 - 1.60	.01	-.01
Wheat	.09 - 1.60	.62 - 1.13	-.42	-.32

a/ Deflated to 1970 prices using the wholesale price index for agricultural products.

* Significant at the 10 percent level.

Data Sources: [4,5,6,7]

of the amount of loans approved to the amount of credit programmed by FFAP and the Caja Agraria for each of the seasonal crops during this period. All of the ranges are very wide, indicating that there is virtually no relation between the amount of credit programmed and the amount of loans actually made for any of the seasonal crops. The only pattern which emerges is that commercial crops grown by large farmers (e.g., cotton, irrigated rice and sorghum) tend to have the highest ratios of loans made to credit programmed. Table 1 also presents the correlations between the amount of credit programmed by FFAP and the Caja Agraria in real terms and the amount of loans approved for each of the seasonal crops. There is again no apparent relation between credit programmed and loans approved. Only one correlation coefficient is significant at the 10 percent level, and most are not significant at even the 50 percent level.

The major conclusion of this paper is that the credit programs of FFAP and the Caja Agraria have virtually no impact on the actual allocation of credit among different seasonal crops. Whether or not this is undesirable remains to be discussed, but it is worthwhile first to ask what factors (other than the credit program) may influence the actual allocation. Price and profit expectations, as discussed in the preceding section, should be significant factors if the allocation of credit is primarily determined by producer demand. Because of the uncertainty surrounding the estimates of production costs, the following analysis focuses mainly on prices rather than on profit expectations. When IDEMA support prices for the concurrent period were used to explain the allocation of credit, no significant relation could be found. However for the reasons indicated in the preceding section, IDEMA prices may have little influence on producer behavior. Average prices paid to the producers of each crop have thus been used as an alternative explanatory variable, but with a lead of six months (e.g., prices for calendar year 1971 related to credit for agricultural year 1971-72). In this case prices tend to have the expected positive impact on credit actually allocated to the different seasonal crops. When the analysis is conducted using a profit variable based on estimates of production costs, yields and prices, the results also show a positive effect on credit allocation.

Because agricultural credit is made available to producers at concessionary rates of interest, the amount of financing which can be obtained per hectare is another factor which might influence the demand for credit. There is some evidence that the amount of credit available per hectare for the different seasonal crops has a positive influence on the ratio of the amount of loans approved to the amount of credit programmed. However, real production costs per hectare have a more significant positive impact on this ratio. Although higher production costs should have an adverse effect on profitability, other things being equal, it has previously been suggested that the production cost estimates used in credit programming may not reflect actual production costs, but rather the power of producer groups to influence cost estimates and thereby increase the amount of subsidized credit available to them.

Lending agencies (i.e., the banks and the Caja Agraria) as well as credit users are likely to influence the allocation of credit. For example, the percentage of production costs which can be financed is an ex-ante variable set as part of the credit program, but the amount actually lent per hectare is an ex-post variable and depends in part on decisions made by the lender. In particular, the Caja Agraria generally sets higher percentages in its programming than FFAP, but actually lends less per hectare. As previously indicated, this anomaly has sometimes been explained by arguing that small farmers have lower production costs than large farmers. However, it may be that small farmers are lent

less per hectare because lenders perceive them to be higher risk borrowers. Thus, factors affecting lender behavior are likely to play a significant role in the divergence of amounts actually lent from the credit program and present an important area for further research.

The main justification for credit programming is to stimulate the production of designated crops. However, even if credit allocation actually followed the credit program, evidence suggests that in Colombia the amounts lent for different seasonal crops are not closely related to the area planted or the production of these crops. Moreover, the major conclusion of this paper is that the FFAP and Caja credit programs are largely unrelated to the amounts actually lent for the different seasonal crops. This may not be an undesirable outcome if credit is actually allocated where rates of return are highest rather than according to the preferences of Colombian policymakers. The danger exists that attempts will be made to compel the allocation of credit to follow the credit program, even when the program is at variance with borrower and lender assessments of profitability. Because credit is fungible and borrowers and lenders can easily report using credit for the activities preferred by policymakers, it would be costly if not impossible to police effectively the allocation of credit.

Credit programming in Colombia not only fails to improve the allocation of credit but may also have various undesirable side effects. Scarce human resources are largely wasted in the credit planning process, although some benefits may arise from the exchange of information which is useful for other agricultural policies (e.g., price supports). Another undesirable side effect is the introduction of rigidities into the allocation of credit, as only the main crops are included in the credit program and new areas and technologies are rarely considered. Credit programming also tends to bring about a greater concentration of agricultural credit in large loans to large farmers, thereby making the distribution of income more unequal, especially since this credit is made available at concessionary rates of interest. As long as the policy of concessionary interest rates continues to provide substantial subsidies, these recipients of agricultural credit will press for the continuation of current policy. Since policies of concessionary interest rates and credit programming appear to be widespread in developing countries, it should also be worthwhile to investigate if the same problems exist in these other countries.

References

1. Dragoslav Avramovic and associates, Economic Growth of Colombia: Problems and Prospects. Baltimore: The Johns Hopkins University Press, 1972.
2. Bela Belassa and associates, The Structure of Protection in Developing Countries. Baltimore: The Johns Hopkins University Press, 1971.
3. Eduardo, Lora T. "Mecanismos y efectos del financiamiento al sector agropecuario." Banca y Finanzas: Revista de la Asociacion Bancaria de Colombia, September 1977, pp. 43-87.
4. Ministerio de Agricultura. Cifras del Sector Agropecuario. Bogota, Colombia. Various years.
5. Ministerio de Agricultura. Programas Agricolas. Bogota, Colombia, Various years.
6. "Ponencia Sobre Mercadeo y Productividad Agricola en Colombia." Neiva (Colombia) Seminar, May 1978.
7. "El Credito y la Productividad." Neiva (Colombia) Seminar, May 1978.
8. "El Sector Agropecuario Colombiano: Problemas Actuales y Perspectivas." Conjuntura Economica. May 1977.